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PTO/SB/05 (12/97)

Approved for use through 09/30/00. OMB 0651-0032

Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

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**UTILITY PATENT APPLICATION TRANSMITTAL**  
(Only for new nonprovisional applications under 37 CFR 1.53(b))

Attorney Docket No. 003801.P015 Total Pages 3  
First Named Inventor or Application Identifier Inna VOGEL  
Express Mail Label No. EL471466922US

ADDRESS TO: Assistant Commissioner for Patents  
Box Patent Application  
Washington, D. C. 20231

**APPLICATION ELEMENTS**

See MPEP chapter 600 concerning utility patent application contents.

1. X Fee Transmittal Form  
(Submit an original, and a duplicate for fee processing)
2. X Specification (Total Pages 27)  
(preferred arrangement set forth below)
  - Descriptive Title of the Invention
  - Cross References to Related Applications
  - Statement Regarding Fed sponsored R & D
  - Reference to Microfiche Appendix
  - Background of the Invention
  - Brief Summary of the Invention
  - Brief Description of the Drawings (if filed)
  - Detailed Description
  - Claims
  - Abstract of the Disclosure
3. X Drawings(s) (35 USC 113) (Total Sheets 9)
4. X Oath or Declaration (Total Pages 5, unsigned)
  - a.      Newly Executed (Original or Copy)
  - b.      Copy from a Prior Application (37 CFR 1.63(d))  
(for Continuation/Divisional with Box 17 completed) (**Note Box 5 below**)
  - i.      DELETIONS OF INVENTOR(S) Signed statement attached deleting inventor(s) named in the prior application, see 37 CFR 1.63(d)(2) and 1.33(b).
5.      Incorporation By Reference (useable if Box 4b is checked)  
The entire disclosure of the prior application, from which a copy of the oath or declaration is supplied under Box 4b, is considered as being part of the disclosure of the accompanying application and is hereby incorporated by reference therein.
6.      Microfiche Computer Program (Appendix)

7. \_\_\_\_\_ Nucleotide and/or Amino Acid Sequence Submission  
(if applicable, all necessary)

- a. \_\_\_\_\_ Computer Readable Copy  
b. \_\_\_\_\_ Paper Copy (identical to computer copy)  
c. \_\_\_\_\_ Statement verifying identity of above copies

**ACCOMPANYING APPLICATION PARTS**

8. \_\_\_\_\_ Assignment Papers (cover sheet & documents(s))  
9. \_\_\_\_\_ a. 37 CFR 3.73(b) Statement (where there is an assignee)  
\_\_\_\_\_ b. Power of Attorney  
10. \_\_\_\_\_ English Translation Document (if applicable)  
11. \_\_\_\_\_ a. Information Disclosure Statement (IDS)/PTO-1449  
\_\_\_\_\_ b. Copies of IDS Citations  
12. \_\_\_\_\_ Preliminary Amendment  
13. X Return Receipt Postcard (MPEP 503) (Should be specifically itemized)  
14. \_\_\_\_\_ a. Small Entity Statement(s)  
\_\_\_\_\_ b. Statement filed in prior application, Status still proper and desired  
15. \_\_\_\_\_ Certified Copy of Priority Document(s) (if foreign priority is claimed)  
16. X Other: Associate Power of Attorney

Letter Regarding Limited Recognition

17. **If a CONTINUING APPLICATION**, check appropriate box and supply the requisite information:

\_\_\_\_ Continuation      \_\_\_\_ Divisional      \_\_\_\_ Continuation-in-part (CIP)

of prior application No: \_\_\_\_

18. **Correspondence Address**

\_\_\_\_ Customer Number or Bar Code Label \_\_\_\_\_  
(Insert Customer No. or Attach Bar Code Label here)

or

X Correspondence Address Below

NAME \_\_\_\_\_

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12/01/97

- 2 -

PTO/SB/05 (12/97)

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Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Respectfully submitted,

BLAKELY SOKOLOFF TAYLOR & ZAFMAN

Date: 09/13/00

By

  
Andre L. Marais  
Under 37 CFR § 10.9(b)

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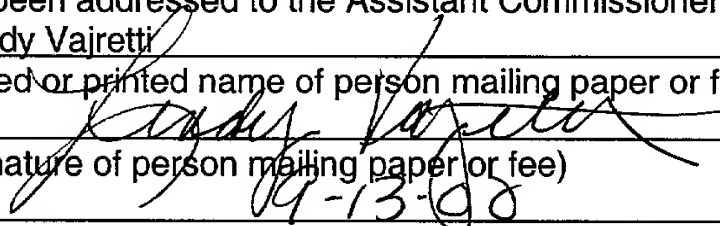
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Lindy Vajretti

(Typed or printed name of person mailing paper or fee)

  
(Signature of person mailing paper or fee)

09-13-00  
(Date signed)

## FEE TRANSMITTAL FOR FY 2000

**TOTAL AMOUNT OF PAYMENT (\$)**      1,692.00

**Complete if Known:**

Application No.      New application  
Filing Date      Herewith  
First Named Inventor      Inna VOGEL  
Group Art Unit      New application  
Examiner Name      New application  
Attorney Docket No.      003801.P015

**METHOD OF PAYMENT (check one)**

1.    ☐    The Commissioner is hereby authorized to charge indicated fees and credit any over payments to:

Deposit Account Number      02-2666  
Deposit Account Name      \_\_\_\_\_

☒    Charge Any Additional Fee Required Under 37 CFR 1.16 and 1.17

2.    ☒    Payment Enclosed:

☒    Check  
\_\_\_\_\_ Money Order  
\_\_\_\_\_ Other

**FEE CALCULATION**

**1.    BASIC FILING FEE**

Large Entity		Small Entity		Fee Description	Fee Paid
Fee Code	Fee (\$)	Fee Code	Fee (\$)		
101	690	201	345	Utility application filing fee	<u>690.00</u>
106	310	206	155	Design application filing fee	_____
107	480	207	240	Plant filing fee	_____
108	690	208	345	Reissue filing fee	_____
114	150	214	75	Provisional application filing fee	_____
<b>SUBTOTAL (1)</b>					<b>\$ <u>690.00</u></b>

**2.    EXTRA CLAIM FEES**

			Extra Claims	Fee from below	Fee Paid
Total Claims	<u>54</u>	- 20** =	<u>34</u>	X <u>18.00</u>	= <u>612.00</u>
Independent Claims	<u>8</u>	- 3** =	<u>5</u>	X <u>78.00</u>	= <u>390.00</u>
Multiple Dependent				_____	= _____

\*\*Or number previously paid, if greater; For Reissues, see below.

Large Entity		Small Entity		Fee Description	
Fee Code	Fee (\$)	Fee Code	Fee (\$)		
103	18	203	9	Claims in excess of 20	
102	78	202	39	Independent claims in excess of 3	
104	260	204	130	Multiple dependent claim, if not paid	
109	78	209	39	**Reissue independent claims over original patent	
110	18	210	9	**Reissue claims in excess of 20 and over original patent	
<b>SUBTOTAL (2)</b>					<b>\$ <u>1,002.00</u></b>

01/10/2000

PTO/SB/17 (6/99)

**FEE CALCULATION (continued)****3. ADDITIONAL FEES**


<u>Large Entity</u>		<u>Small Entity</u>		<u>Fee Description</u>	<u>Fee Paid</u>
<u>Fee Code</u>	<u>Fee (\$)</u>	<u>Fee Code</u>	<u>Fee (\$)</u>		
105	130	205	65	Surcharge - late filing fee or oath	_____
127	50	227	25	Surcharge - late provisional filing fee or cover sheet	_____
139	130	139	130	Non-English specification	_____
147	2,520	147	2,520	For filing a request for reexamination	_____
112	920*	112	920*	Requesting publication of SIR prior to Examiner action	_____
113	1,840*	113	1,840*	Requesting publication of SIR after Examiner action	_____
115	110	215	55	Extension for response within first month	_____
116	380	216	190	Extension for response within second month	_____
117	870	217	435	Extension for response within third month	_____
118	1,360	218	680	Extension for response within fourth month	_____
128	1,850	228	925	Extension for response within fifth month	_____
119	300	219	150	Notice of Appeal	_____
120	300	220	150	Filing a brief in support of an appeal	_____
121	260	221	130	Request for oral hearing	_____
138	1,510	138	1,510	Petition to institute a public use proceeding	_____
140	110	240	55	Petition to revive unavoidably abandoned application	_____
141	1,210	241	605	Petition to revive unintentionally abandoned application	_____
142	1,210	242	605	Utility issue fee (or reissue)	_____
143	430	243	215	Design issue fee	_____
144	580	244	290	Plant issue fee	_____
122	130	122	130	Petitions to the Commissioner	_____
123	50	123	50	Petitions related to provisional applications	_____
126	240	126	240	Submission of Information Disclosure Stmt	_____
581	40	581	40	Recording each patent assignment per property (times number of properties)	_____
146	690	246	345	For filing a submission after final rejection (see 37 CFR 1.129(a))	_____
149	690	249	345	For each additional invention to be examined (see 37 CFR 1.129(a))	_____
Other fee (specify) _____					_____
Other fee (specify) _____					_____

**SUBTOTAL (3) \$ NA**

\*Reduced by Basic Filing Fee Paid

**SUBMITTED BY:**

Typed or Printed Name: André L. Marais

Signature  Date 09/13/00

Reg. Number Under 37 CFR § 10.9(b) Deposit Account User ID 02-2666  
(complete if applicable)

UNITED STATES PATENT APPLICATION

FOR

**MONITORING AND AUTOMATIC NOTIFICATION OF IRREGULAR  
ACTIVITY IN A NETWORK-BASED TRANSACTION FACILITY**

INVENTORS:

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Mei Ye**

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Attorney's Docket No. 003801.P015

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Date of Deposit: September 13, 2000

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(Signature of person mailing paper or fee)

9-13-00  
(Date signed)

# MONITORING AND AUTOMATIC NOTIFICATION OF IRREGULAR ACTIVITY IN A NETWORK-BASED TRANSACTION FACILITY

## FIELD OF THE INVENTION

The present invention relates generally to the field of e-commerce and, more specifically, to monitoring irregular activity in a network-based transaction  
5 facility such as, for example, an Internet-based auction facility.

## BACKGROUND OF THE INVENTION

Network-based transaction facilities (e.g., business-to-business, business-  
to-consumer and consumer-to-consumer Internet marketplaces and retailers)  
10 provide convenience of access to users of such facilities and on-line communities. Information regarding sales made through network-based transaction facilities may be automatically extracted and reported for any desired time interval - hourly, daily, weekly, monthly, etc. This information is useful to the facilities for a variety of reasons including record keeping, generating statistics, calculating  
15 revenue, etc.

For example, an Internet-based retailer may generate a report listing the items sold during the day and the revenue generated by the sales. An Internet-based bookstore may, for example, generate reports listing the number of books sold during the past month in a specific category or by a specific author. Such  
20 statistics are useful in assisting a purchaser with a buying decision or assisting the retailer with stocking decisions.

For a network-based transaction facility, such as an Internet-based auction facility, and its users, information regarding sales is particularly important for setting fees and providing price guidance to users. Fees may be set based on  
25 volume or price of the items sold for individual users. The network-based

5 auction facility may use sales information and statistics to determine how to set fees. The network-based auction facility may further use information generated on a periodic basis to guide sellers in setting prices at which to sell their items or buyers in bidding for items by indicating the average price or price range of the type of product being sold. Thus, there is a need for accurate reporting of information.



## SUMMARY OF THE INVENTION

A method of filtering out item data in a report in network-based auction facilities is described. Data concerning multiple items is received in a database of a network-based auction facility. A price-based value is associated with at least one item. Irregular data concerning an irregular item having a price-based value greater than a predetermined price-based value is removed from a representation of the data.

## BRIEF DESCRIPTION OF THE DRAWINGS

The present invention is illustrated by way of example and not limitation in the figures of the accompanying drawings, in which like references indicate similar elements and in which:

5        **Figure 1** is a block diagram illustrating an exemplary network-based transaction facility in the form of an Internet-based auction facility;

**Figure 2** is a block diagram illustrating an exemplary database that at least partially implements and supports the Internet-based auction facility of **Figure 1**;

10       **Figures 3a and 3b** are diagrammatic representations of an exemplary embodiment of a transaction record table;

**Figure 4** is a flow diagram of one embodiment of an irregular activity monitoring and automatic notification system;

**Figure 5** is a flow diagram of a second embodiment of an irregular activity monitoring and automatic notification system;

15       **Figure 6** is a flow diagram of a third embodiment of an irregular activity monitoring and automatic notification system;

**Figure 7** is a flow diagram of a fourth embodiment of an irregular activity monitoring and automatic notification system;

20       **Figure 8** is a flow diagram of a fifth embodiment of an irregular activity monitoring and automatic notification system;

**Figure 9** is a block diagram of one embodiment of a computer system suitable for practicing the present invention.

## DETAILED DESCRIPTION

A method and system for monitoring and automatically reporting irregular activity on a network-based transaction facility are described. In the following description, for purposes of explanation, numerous specific details are set forth in order to provide a thorough understanding of the present invention. It will be evident, however, to one skilled in the art that the present invention may be practiced without these specific details.

### Terminology

For the purposes of the present specification, the term "transaction" shall be taken to include any communications between two or more entities and shall be construed to include, but not be limited to, commercial transactions including sale and purchase transactions, auctions and the like. The term "suspect" shall be taken to indicate requiring further investigation or scrutiny. The term "irregular" shall be taken to indicate a derivation from a norm or an exceeding of boundaries or a range.

### Transaction Facility

**Figure 1** is a block diagram illustrating an exemplary network-based transaction facility in the form of an Internet-based auction facility 10. While an exemplary embodiment of the present invention is described within the context of an auction facility, it will be appreciated by those skilled in the art that the invention will find application in many different types of computer-based, and network-based, commerce facilities.

The auction facility 10 includes one or more of a number of types of front-end servers, namely page servers 12 that deliver web pages (e.g., markup language documents), picture servers 14 that dynamically deliver images to be

displayed within Web pages, listing servers 16, CGI servers 18 that provide an intelligent interface to the back-end of facility 10, and search servers 20 that handle search requests to the facility 10. E-mail servers 21 provide, *inter alia*, automated e-mail communications to users of the facility 10.

5           The back-end servers include a database engine server 22 including an irregular activity monitoring system 27, a search index server 24 and a credit card database server 26, each of which maintains and facilitates access to a respective database.

10           The Internet-based auction facility 10 may be accessed by a client program 30, such as a browser (e.g., the Internet Explorer distributed by Microsoft Corp. of Redmond, Washington) that executes on a client machine 32 and accesses the facility 10 via a network such as, for example, the Internet 34. Other examples of networks that a client may utilize to access the auction facility 10 include a wide area network (WAN), a local area network (LAN), a wireless network (e.g., a  
15   cellular network), or the Plain Old Telephone Service (POTS) network.

### Database Structure

20           **Figure 2** is a database diagram illustrating an exemplary database 23, maintained by and accessed via the database engine server 22, which at least partially implements and supports the auction facility 10. Database engine server 22 includes an irregular activity monitoring system 27 which performs algorithms to remove irregular and suspect data items from data representations, as described below with reference to **Figures 4-8**.

25           The database 23 may, in one embodiment, be implemented as a relational database, and includes a number of tables having entries, or records, that are linked by indices and keys. In an alternative embodiment, the database 23 may be implemented as collection of objects in an object-oriented database.

Database 23 includes an item table 40, which contains a record for each item being auctioned on the auction facility 10. An item record in item table 40 may include, *inter alia*, an identification number, a marketplace indicator, sale type, title, location, seller, owner, category, quantity, bid count, sale start date, sale end date, highest bidder identification, billing currency, etc. The database 23 also includes an item ended table 42, linked to the item table 40, and an item archived table 44, linked to the item ended table 42. Each item from item table 40 is moved to the item ended table 42 two to three days after the end of the auction for that item. Each item from item ended table 42 is moved to item archived table 44 three months after the end of the auction for that item.

The item table 40 is also linked to item description table 50 and item description ended 52. Item description table 50, item description ended table 52 and item description archived table 54 may each include, *inter alia*, a description of each item in the item table, an identification for the item and a marketplace indicator for the item. Each item description from item description table 50 is moved to the item description ended table 52 two to three days after the end of the auction for that item. Each item description from item description ended table 52 is moved to item description archived table 54 three months after the end of the auction for that item.

A number of other tables are also shown to be linked to the item table 40, namely a transaction record table 200, a categories table 70 and an irregular item table 80. The irregular item table 80 may also be linked (not shown) to the transaction record table 200. Item information from item records in item table 40 is entered into transaction record table 200 upon the completion of a successful auction.

**Figures 3a and 3b** are diagrammatic representations of an exemplary embodiment of the transaction record table 300 that is populated with records, or

entries, for completed, or ended, transactions (e.g., auctions) that have been facilitated by the auction facility 10. The table 300 includes an item identifier column 310 for each entry, and at least one price-based value column 320, 330 indicating, for example, the highest bid for the entry (or selling price) 320 or a fee, based on the highest bid 330, charged the seller by the network-based auction site 10. The item identifier entry may be an item number including a pointer to further item information in item table 40. The item information in item table 40 may include a pointer to category information in categories table 70.

An irregular flag column 340 stores a value 301-304 indicating whether the entry is irregular. A seller id column 350 and a bidder id column 360 store a user identifier for each of the seller of an item and the highest bidder (or purchaser) for the item, the user identifier comprising a pointer to further user information stored in a user table (not shown).

It should be noted that only one of the selling price column 320 or price-based fee column 330 is necessary for the operation of the present invention. Further, the irregular flag column 340, seller id column 350 and bidder id column 360 are also not required for the operation of the irregular activity monitoring and automatic reporting system. In the embodiment shown in Figures 3a and 3b, monitoring of the irregular activity is done using the transaction record table 300. In other embodiments, the irregular activity may be monitored and reported in any table that used by the auction site for reporting or representing data.

In Figures 3a and 3b, items 1-4 in column 310 are linked to the same category. The selling prices of items 1-4 are \$2500, \$150,000, \$1800 and \$1950, respectively. If the category is computers, for example, the category may be assigned an irregular activity threshold of \$15,000 or another amount that would indicate that the item or the bid is irregular (or outside the normal range). In figure 3a, all of the irregular flag values 301-304 in column 340 are initially

assigned a value of 0 when the item information is first entered in the transaction record table 300.

In Figure 3b, item 2's irregular flag 302 has been changed from 0 to 1 to indicate that item 2 has some irregular activity associated with it. It should be noted that, in one embodiment, an entry is only created in the transaction record table 300 for transactions that have been established, for example, by the conclusion of an auction process, or by some other offer and acceptance mechanism between the purchaser and the seller. Thus, the irregular activity monitoring and automatic notification system, which may include changing the irregular flag value, may be triggered after information has been entered into a transaction record table 300, for example, for each category for all auctions in that category ending at a specific time.

The irregular flag may be implemented so that the irregular flag may be later changed back to 0, after further investigation. In another embodiment, the irregular flag may be implemented so that it may not be changed back to 0 once it has been changed to 1.

When irregular activity has been found, an email may be sent to the seller and/or bidder at an address associated with the user identifier of the seller and/or bidder. The seller and/or bidder may further be banned from participation on the auction site by using the pointer linking to the user table to update a "irregular\_user" or similar field in the user record of the seller and/or bidder.

The irregular flag 301-304 in Figures 3a and 3b may be updated based on another price-based value, such as a price-based fee 330, for example. An auction site 10 may charge sellers fees based on the selling price of an item. Thus, the auction site may use the formula for determining fees to determine a threshold fee for monitoring irregular activity. In Figures 3a and 3b, the

threshold fee for the category computers, for example, may be \$200, based on a threshold price of \$15,000. In another embodiment, the threshold fee may be simply the average fee plus a set amount, such as \$300, for example. Thus, if the average fee for computers is \$40, for example, then the threshold fee may be \$340. Many other algorithms may be used to determine a threshold price-based value, such as a threshold price or threshold price-based fee.

The threshold price-based value may also be determined based on the currency of the transaction, the category of the transaction, or the geographic location of the transaction. For example, a table may be used to determine threshold prices for items where the rows of the table represent the categories of the item and the columns represent the currency of the transaction. The threshold values may be listed in U.S. dollars for uniformity. Although the transaction is completed in Japanese yen, the threshold value will be listed in dollars and the highest bid will be converted from yen to dollars to compare whether the threshold value has been exceeded. Thus, a transaction completed in Japanese yen won't be limited to the threshold set for transactions in U.S. dollars and transactions in U.S. dollars won't be limited to thresholds set for Japanese yen.

**Figure 4** is a flow diagram of one embodiment of an irregular activity monitoring and automatic notification system. At processing block 401, data is received, for example in the transaction record table 300, having at least one price-based value. Although the process is described with respect to transaction record table 300, it will be appreciated that the following processes may be performed with any set of data at any location at auction site 10.

At processing block 402, a counter  $n$  is set to 0. At processing block 403, the irregular activity monitoring system 27 checks to see if a price-based value of Item ( $n$ ) of a set of items has a value greater than a predetermined value. As



discussed above, the set of items may be items from the same category which had transactions established, by the ending of an auction, for example, at the same time. The predetermined value would depend on which price-based value is being examined, the currency, the geographic area, the category of the item or  
5 any other parameter that may indicate different threshold values to establish irregular activity.

If the price-based value of item(n) is not greater than the predetermined value, the irregular activity monitoring system 27 skips to processing block 405, as described below.

10 If the price-based value of item(n) has a value greater than the predetermined value, at processing block 404, the item(n) is removed from further representations of the data, which may include, for example, reports or statistics based on established transactions. The irregular activity monitoring system 27 then proceeds to processing block 405 which checks whether the end  
15 of the set of items has been reached by comparing n to End. If n equals End, the system concludes checking for irregular activity at processing block 407.

If n does not equal End, the counter is incremented by 1 and the irregular activity monitoring system 27 returns to processing block 403 to check then next item in the set of items.

20 It will be appreciated that the irregular activity monitoring system 27 may be implemented as part of a larger application or may be implemented by itself.

**Figure 5** is a flow diagram of a second embodiment of an irregular activity monitoring and automatic notification system. At processing block 501, data is received including at least one item record having at least one price-based value  
25 associated with the item, as discussed above with respect to Figure 4. At processing block 502, a counter n is set to 0.

At processing block 503, the price-based value of item(n) of a set of items

is compared to a predetermined price-based value. If the price-based value of item(n) is not greater than the predetermined value, the irregular activity monitoring system 27 goes on to processing block 505.

If the price-base value of item(n) is greater than the predetermined value, at processing block 504, the value of an irregular\_flag associated with item(n) is changed from 0 to 1. The system then proceeds to processing block 505 where the system checks to see if the end of the set of items has been reached. If the end of the set has not been reached, at processing block 506, the counter n is incremented by 1 and the system proceeds to processing block 503 to check the price-based value of the next item. If the end of the set has been reached, the system proceeds to processing block 507 where a report or other data representation is generated where the data representation only includes items having an irregular flag value of 0.

**Figure 6** is a flow diagram of a third embodiment of an irregular activity monitoring and automatic notification system. At processing block 601, data is received including at least one item record having at least one price-based value associated with the item, as discussed above with respect to Figure 4. At processing block 602, a counter n is set to 0.

At processing block 603, the price-based value of item(n) of a set of items is compared to a predetermined price-based value. If the price-based value of item(n) is not greater than the predetermined value, the irregular activity monitoring system 27 goes on to processing block 605.

If the price-base value of item(n) is greater than the predetermined value, at processing block 604, the value of an irregular\_flag associated with item(n) is changed from 0 to 1. The system then proceeds to processing block 605 where the system checks to see if the end of the set of items has been reached. If the end of the set has not been reached, at processing block 606, the counter n is

incremented by 1 and the system proceeds to processing block 603 to check the price-based value of the next item.

If the end of the set has been reached, the system proceeds to processing block 607 where each item having an irregular flag value of 1 is investigated. At processing block 608, the irregular flag values of all the transactions that are found to be legitimate are reset to 0. At processing block 609, a report or other data representation is generated where the data representation only includes items having an irregular flag value of 0.

**Figure 7** is a flow diagram of a fourth embodiment of an irregular activity monitoring and automatic notification system. At processing block 701, data is received including at least one item record having at least one price-based value associated with the item. At processing block 702, a counter  $n$  is set to 0.

At processing block 703, the price-based value of item( $n$ ) of a set of items is compared to a predetermined price-based value. If the price-based value of item( $n$ ) is not greater than the predetermined value, the irregular activity monitoring system 27 goes on to processing block 705.

If the price-base value of item( $n$ ) is greater than the predetermined value, at processing block 704, the value of an irregular\_flag associated with item( $n$ ) is changed from 0 to 1. The system then proceeds to processing block 705 where the system checks to see if the end of the set of items has been reached. If the end of the set has not been reached, at processing block 706, the counter  $n$  is incremented by 1 and the system proceeds to processing block 703 to check the price-based value of the next item.

If the end of the set has been reached, the system proceeds to processing block 707 where a report or other data representation is generated where the data representation includes all items including items having an irregular flag value of 1. However, the records for all items having an irregular flag value of 1 are

disabled so that the items are not used for any computations or statistics or other purposes, although the items appear in the data representations.

At processing block 708, all items having an irregular flag value of 1 are investigated. At processing block 709, the irregular flag values of all the transactions that are found to be legitimate are reset to 0 so that the item records may be included in computations and statistics.

**Figure 8** is a flow diagram of a fifth embodiment of an irregular activity monitoring and automatic notification system. At processing block 801, data is received including at least one item record having at least one price-based value associated with the item. At processing block 802, a counter  $n$  is set to 0.

At processing block 803, the price-based value of item( $n$ ) of a set of items is compared to a predetermined price-based value. If the price-based value of item( $n$ ) is not greater than the predetermined value, the irregular activity monitoring system 27 goes on to processing block 805.

If the price-base value of item( $n$ ) is greater than the predetermined value, at processing block 804, the value of an irregular\_flag associated with item( $n$ ) is changed from 0 to 1. The system then proceeds to processing block 805 where the system checks to see if the end of the set of items has been reached. If the end of the set has not been reached, at processing block 806, the counter  $n$  is incremented by 1 and the system proceeds to processing block 803 to check the price-based value of the next item.

If the end of the set has been reached, the system proceeds to processing block 807 where a report or other data representation is generated where the data representation only includes items having an irregular flag value of 1. At processing block 808, all of the items in the report generated by processing block 807 are investigated. At processing block 809, the irregular flag values of all the transactions that are found to be legitimate are reset to 0 so that the item records

are available for all computations, statistics, etc.

In summary, it will be appreciated that the above described interfaces, and underlying technologies, provide a convenient vehicle for the inputting of feedback, comments or opinions regarding multiple items, or transactions, via a single user interface.

**Figure 9** shows a diagrammatic representation of machine in the exemplary form of a computer system 900 within which a set of instructions, for causing the machine to perform any one of the methodologies discussed above, may be executed. In alternative embodiments, the machine may comprise a network router, a network switch, a network bridge, Personal Digital Assistant (PDA), a cellular telephone, a web appliance or any machine capable of executing a sequence of instructions that specify actions to be taken by that machine.

The computer system 900 includes a processor 902, a main memory 904 and a static memory 906, which communicate with each other via a bus 908. The computer system 900 may further include a video display unit 910 (e.g., a liquid crystal display (LCD) or a cathode ray tube (CRT)). The computer system 900 also includes an alpha-numeric input device 912 (e.g. a keyboard), a cursor control device 914 (e.g. a mouse), a disk drive unit 916, a signal generation device 920 (e.g. a speaker) and a network interface device 922

The disk drive unit 916 includes a machine-readable medium 924 on which is stored a set of instructions (i.e., software) 926 embodying any one, or all, of the methodologies described above. The software 926 is also shown to reside, completely or at least partially, within the main memory 904 and/or within the processor 902. The software 926 may further be transmitted or received via the network interface device 922. For the purposes of this specification, the term "machine-readable medium" shall be taken to include any

medium that is capable of storing or encoding a sequence of instructions for execution by the machine and that cause the machine to perform any one of the methodologies of the present invention. The term "machine-readable medium" shall accordingly be taken to included, but not be limited to, solid-state  
5 memories, optical and magnetic disks, and carrier wave signals.

Thus, a method and system for harvesting feedback information, comments, and opinions regarding multiple items from users of a network-based transaction facility have been described. Although the present invention has been described with reference to specific exemplary embodiments, it will be  
10 evident that various modifications and changes may be made to these embodiments without departing from the broader spirit and scope of the invention. Accordingly, the specification and drawings are to be regarded in an illustrative rather than a restrictive sense.

## CLAIMS

What is claimed is:

We claim:

- 1     1.     A method of filtering out item data in a report in network-based auction facilities  
2     comprising:  
3         receiving data concerning multiple items having a price-based value associated  
4     with at least one item; and  
5         removing irregular data concerning an irregular item having a price-based value  
6     greater than a predetermined price-based value from a representation of the data.
- 1     2.     The method of claim 1 wherein removing the irregular data concerning the  
2     irregular item having a price-based value greater than the predetermined price-based  
3     value comprises setting an irregular item flag for the irregular item having a price-based  
4     value greater than the predetermined price-based value; and  
5         using only items having an irregular item flag that is not set for data computations  
6     and reports.
- 1     3.     The method of claim 2 wherein the irregular item flag of each item having an  
2     irregular item flag set may be unset if the item is found to be legitimate.
- 1     4.     The method of claim 1 wherein removing the irregular data concerning the  
2     irregular item having a price-based value greater than the predetermined price-based  
3     value comprises deleting the irregular data from data computations and reports.
- 1     5.     The method of claim 1 wherein the irregular item has a bid that is later found to  
2     be not genuine.

1 6. The method of claim 1 wherein the irregular item is later found to be not in  
2 existence.

1 7. The method of claim 1 wherein the data is generated after predetermined time  
2 intervals and includes information from auctions ending during the predetermined time  
3 intervals.

1 8. The method of claim 1 further comprising generating a finance report based on  
2 the representation of the data.

1 9. The method of claim 1 further comprising generating a category summary report  
2 based on the representation of the data.

1 10. The method of claim 1 further comprising generating a daily statistics report  
2 based on the representation of the data.

1 11. The method of claim 1 further comprising converting the price-based values of  
2 the multiple items from a first currency to a second currency and choosing the  
3 predetermined price-based value from a plurality of predetermined price-based values  
4 based on the first currency.

1 12. The method of claim 11 wherein the plurality of predetermined price-based values  
2 are in a table format.

1 13. The method of claim 1 further comprising choosing the predetermined price-  
2 based value from a plurality of predetermined price-based value based on a category in  
3 which the irregular item was auctioned within the network-based auction facility.



1 14. The method of claim 13 wherein the plurality of predetermined price-based values  
2 are in a table format.

1 15. The method of claim 1 wherein the price-based value comprises a selling price of  
2 the irregular item.

1 16. The method of claim 1 wherein the price-based value comprises a fee set by a  
2 network-based auction facility based on the selling price of the irregular item.

1 17. The method of claim 1 further comprising choosing the predetermined price based  
2 on auction type.

1 18. The method of claim 1 further comprising storing a bidder identification  
2 associated with the irregular item in an irregular user database; and  
3 disabling use of the network-based auction facility by a user associated with the  
4 bidder identification in the irregular user database.

1 19. The method of claim 18 further comprising investigating the bidder identification  
2 in the irregular user database and removing the bidder identification from the irregular  
3 user database if the price-based value associated with the bidder identification is  
4 legitimate.

1 20. The method of claim 1 further comprising storing a seller identification associated  
2 with the irregular item in an irregular user database; and  
3 disabling use of the network-based auction facility by a user associated with the  
4 seller identification in the irregular user database.

1 21. The method of claim 20 further comprising investigating the seller identification  
2 in the irregular user database and removing seller identifications from the irregular user  
3 database if the price-based value associated with the seller identification is legitimate.

1 22. A computer readable storage medium containing executable computer program  
2 instructions which when executed cause a digital processing system to perform a method  
3 for filtering out item data in a report in network-based auction facilities, said method  
4 comprising:

5 receiving data concerning multiple items having a price-based value associated  
6 with at least one item; and

7 removing suspect data concerning a suspect item having a price-based value  
8 greater than a predetermined price-based value from a representation of the data.

1 23. A system for filtering out item data in a report in network-based auction facilities  
2 comprising:

3 means for receiving data concerning multiple items having a price-based value  
4 associated with at least one item; and

5 means for removing suspect data concerning a suspect item having a price-based  
6 value greater than a predetermined price-based value from a representation of the data.

1 24. A system for filtering out item data in a report in network-based auction facilities  
2 comprising:

3 a database storing data concerning multiple items having a price-based value  
4 associated with at least one item;

5 a database engine server comprising an irregular activity monitoring system  
6 wherein the irregular activity monitoring system removes irregular data concerning an

7 irregular item having a price-based value greater than a predetermined price-based value  
8 from a representation of the data.

1 25. The system of claim 24 wherein the irregular activity monitoring system sets an  
2 irregular flag for the irregular item having a price-based value greater than a  
3 predetermined price-based value and only items having an irregular item flag that is not  
4 set are used for data computations and reports.

1 26. The system of claim 25 wherein the irregular flag may be unset.

1 27. The system of claim 24 wherein the database stores a look-up table storing  
2 currency conversion rates and a look-up table storing predetermined price-based values  
3 based on auction categories.

1 28. A method of filtering out item data in a report in network-based auction facilities  
2 comprising:  
3 receiving data concerning multiple items having a price-based value associated  
4 with at least one item; and  
5 removing suspect data concerning a suspect item having a price-based value  
6 greater than a predetermined price-based value from a representation of the data.

1 29. The method of claim 28 wherein removing the suspect data concerning the  
2 suspect item having a price-based value greater than the predetermined price-based value  
3 comprises setting a suspect item flag for the suspect item having a price-based value  
4 greater than the predetermined price-based value; and  
5 using only items having a suspect item flag that is not set for data computations  
6 and reports.

1 30. The method of claim 29 wherein the suspect item flag of each item having a  
2 suspect item flag set may be unset if the item is found to be legitimate.

1 31. The method of claim 28 wherein removing the suspect data concerning the  
2 suspect item having a price-based value greater than the predetermined price-based value  
3 comprises deleting the suspect data from data computations and reports.

1 32. The method of claim 28 wherein the suspect item has a bid that is later found not  
2 to be genuine.

1 33. The method of claim 28 wherein the suspect item is later found not to be in  
2 existence.

1 34. The method of claim 28 wherein the data is generated after predetermined time  
2 intervals and includes information from auctions ending during the predetermined time  
3 intervals.

1 35. The method of claim 28 further comprising generating a finance report based on  
2 the representation of the data.

1 36. The method of claim 28 further comprising generating a category summary report  
2 based on the representation of the data.

1 37. The method of claim 28 further comprising generating a daily statistics report  
2 based on the representation of the data.

1 38. The method of claim 28 further comprising converting the price-based values of  
2 the multiple items from a first currency to a second currency and choosing the  
3 predetermined price-based value from a plurality of predetermined price-based values  
4 based on the first currency.

1 39. The method of claim 38 wherein the plurality of predetermined price-based values  
2 are in a table format.

1 40. The method of claim 28 further comprising choosing the predetermined price-  
2 based value from a plurality of predetermined price-based value based on a category in  
3 which the suspect item was auctioned within the network-based auction facility.

1 41. The method of claim 40 wherein the plurality of predetermined price-based values  
2 are in a table format.

1 42. The method of claim 28 wherein the price-based value comprises a selling price  
2 of the suspect item.

1 43. The method of claim 28 wherein the price-based value comprises a fee set by a  
2 network-based auction facility based on the selling price of the suspect item.

1 44. The method of claim 28 further comprising choosing the predetermined price  
2 based on auction type.

1 45. The method of claim 28 further comprising storing a bidder identification  
2 associated with the suspect item in a suspect user database; and

3            disabling use of the network-based auction facility by a user associated with the  
4 bidder identification in the suspect user database.

1    46.    The method of claim 45 further comprising investigating the bidder identification  
2 in the suspect user database and removing the bidder identification from the suspect user  
3 database if the price-based value associated with the bidder identification is legitimate.

1    47.    The method of claim 28 further comprising storing a seller identification  
2 associated with the suspect item in a suspect user database; and  
3            disabling use of the network-based auction facility by a user associated with the  
4 seller identification in the suspect user database.

1    48.    The method of claim 47 further comprising investigating the seller identification  
2 in the suspect user database and removing seller identifications from the suspect user  
3 database if the price-based value associated with the seller identification is legitimate.

1    49.    A computer readable storage medium containing executable computer program  
2 instructions which when executed cause a digital processing system to perform a method  
3 for filtering out suspect items in reports in network-based auction facilities, said method  
4 comprising:

5            receiving data including at least one item having a price-based value associated  
6 with each item; and

7            removing all items having a price-based value greater than a predetermined price-  
8 based value from a representation of the data.

1    50.    A system for filtering out suspect items in reports in network-based auction  
2 facilities comprising:

3 means for receiving data including at least one item having a price-based value  
4 associated with each item; and  
5 means for removing all items having a price-based value greater than a  
6 predetermined price-based value from a representation of the data.

1 51. A system for filtering out item data in a report in network-based auction facilities  
2 comprising:

3 a database storing data concerning multiple items having a price-based value  
4 associated with at least one item;

5 a database engine server comprising a irregular activity monitoring system  
6 wherein the irregular activity monitoring system removes suspect data concerning a  
7 suspect item having a price-based value greater than a predetermined price-based value  
8 from a representation of the data.

1 52. The system of claim 51 wherein the irregular activity monitoring system sets a  
2 suspect flag for the suspect item having a price-based value greater than a predetermined  
3 price-based value and only items having a suspect item flag that is not set are used for  
4 data computations and reports.

1 53. The system of claim 52 wherein the suspect flag may be unset.

1 54. The system of claim 51 wherein the database stores a look-up table storing  
2 currency conversion rates and a look-up table storing predetermined price-based values  
3 based on auction categories.

## ABSTRACT OF THE DISCLOSURE

A method of filtering out item data in a report in network-based auction facilities. Data concerning multiple items is received in a database of a network-based auction facility. A price-based value is associated with at least one item.

- 5 Irregular data concerning an irregular item having a price-based value greater than a predetermined price-based value is removed from a representation of the data.



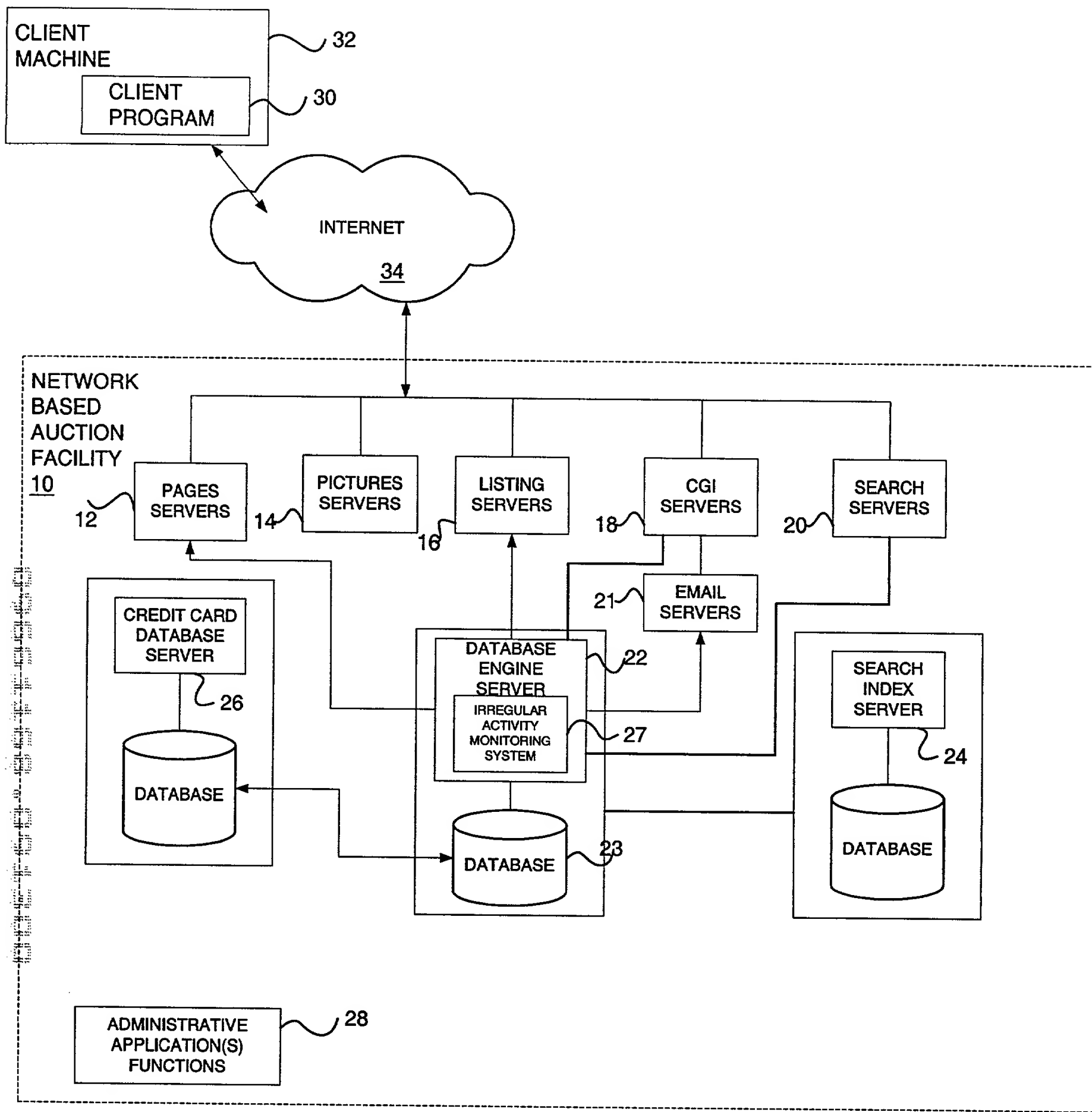


FIGURE 1

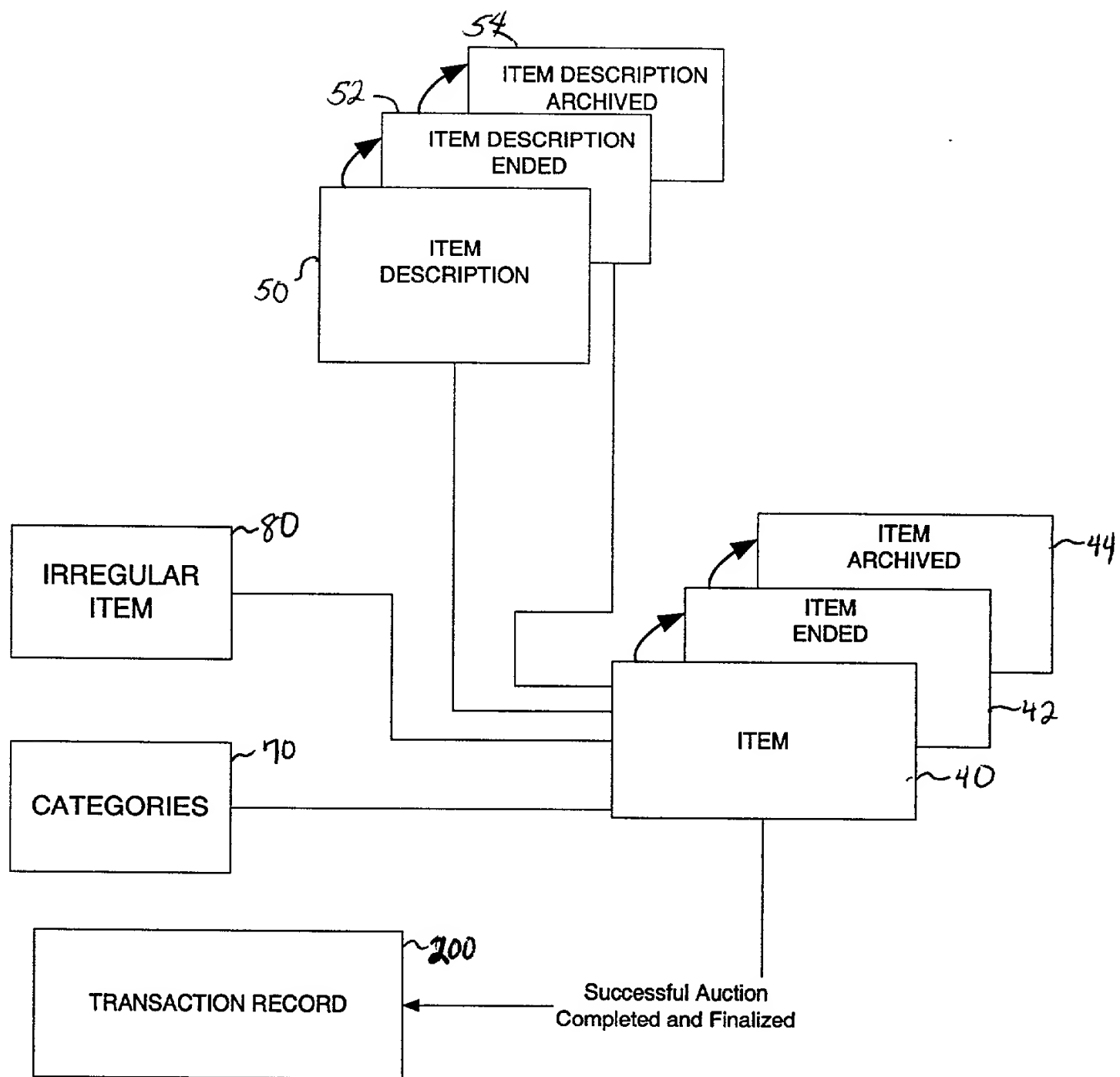


FIGURE 2

300

Data					
Item ID	Selling Price	Price-Based Fee	Irregular Flag	Seller Id	Bidder Id
Item 1	\$2500	\$44.37	0 301	A	E
Item 2	\$150,000	\$1888.12	0 302	B	F
Item 3	\$1800	\$35.62	0 303	C	G
Item 4	\$1950	\$37.50	0 304	D	H

310
320
330
340
350
360

FIGURE 3a

300

Data					
Item ID	Selling Price	Price-Based Fee	Irregular Flag	Seller Id	Bidder Id
Item 1	\$2500	\$44.37	0 301	A	E
Item 2	\$150,000	\$1888.12	1 302	B	F
Item 3	\$1800	\$35.62	0 303	C	G
Item 4	\$1950	\$37.50	0 304	D	H

310
320
330
340
350
360

FIGURE 3b

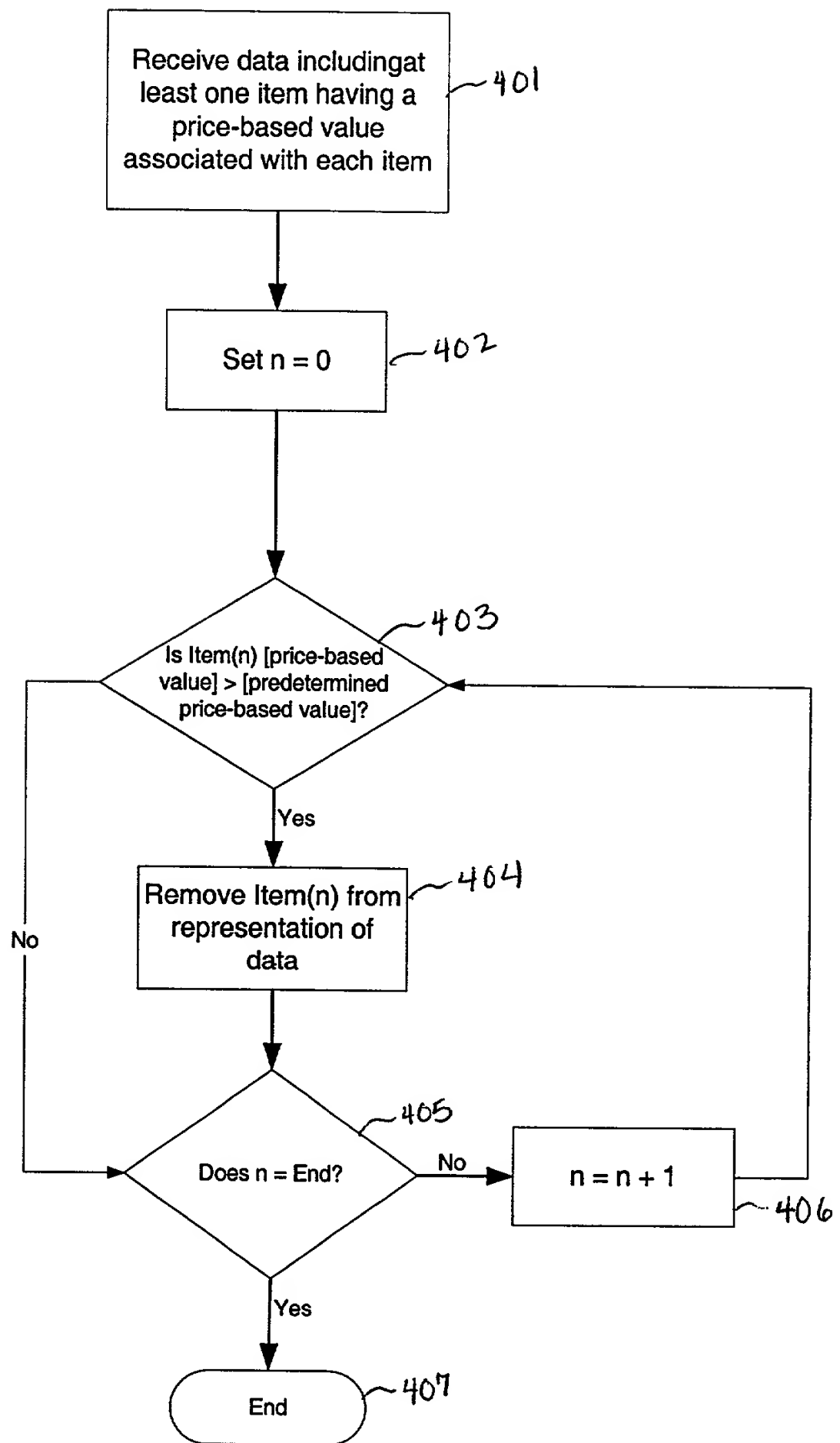


FIGURE 4

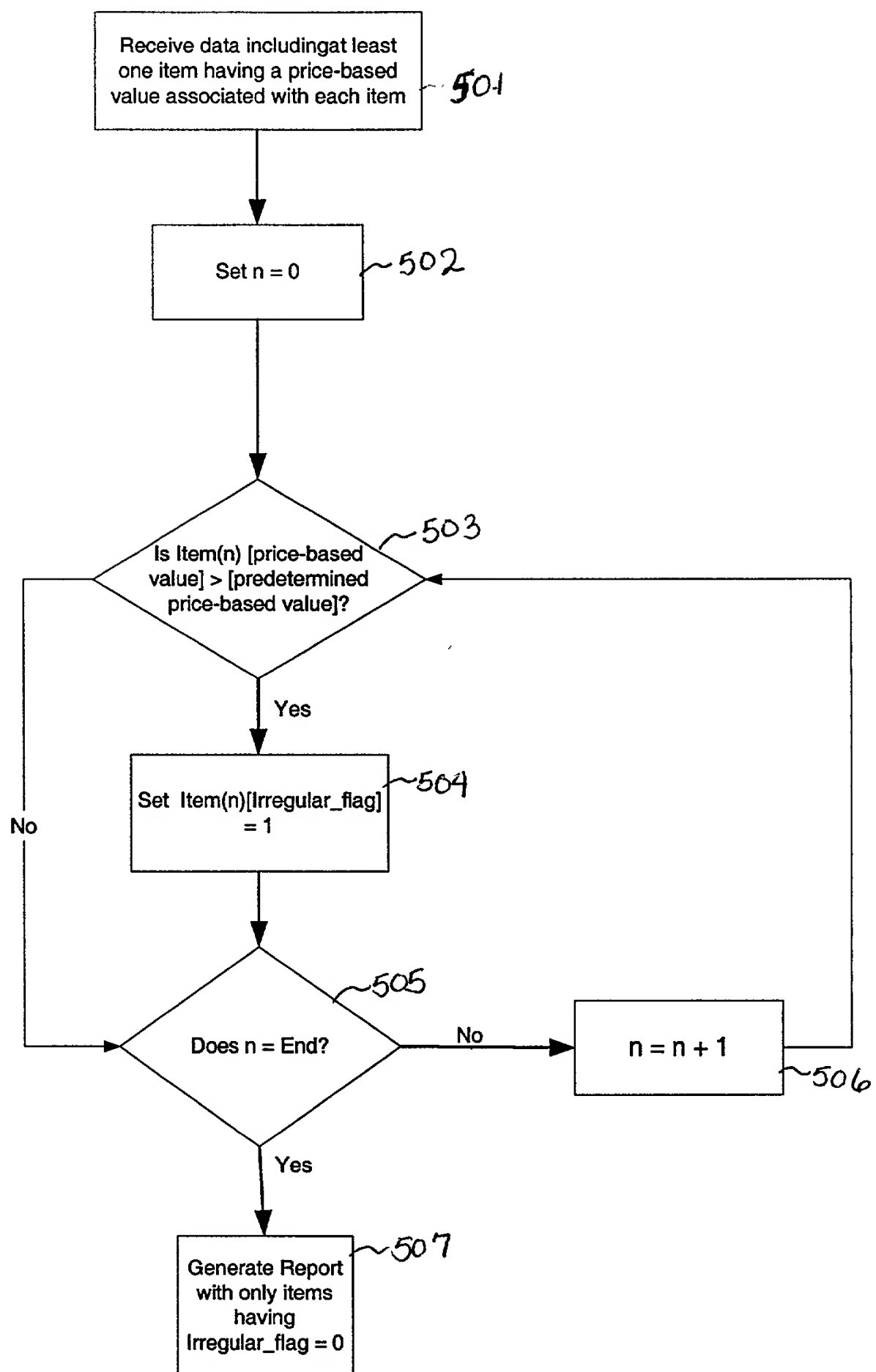


FIGURE 5

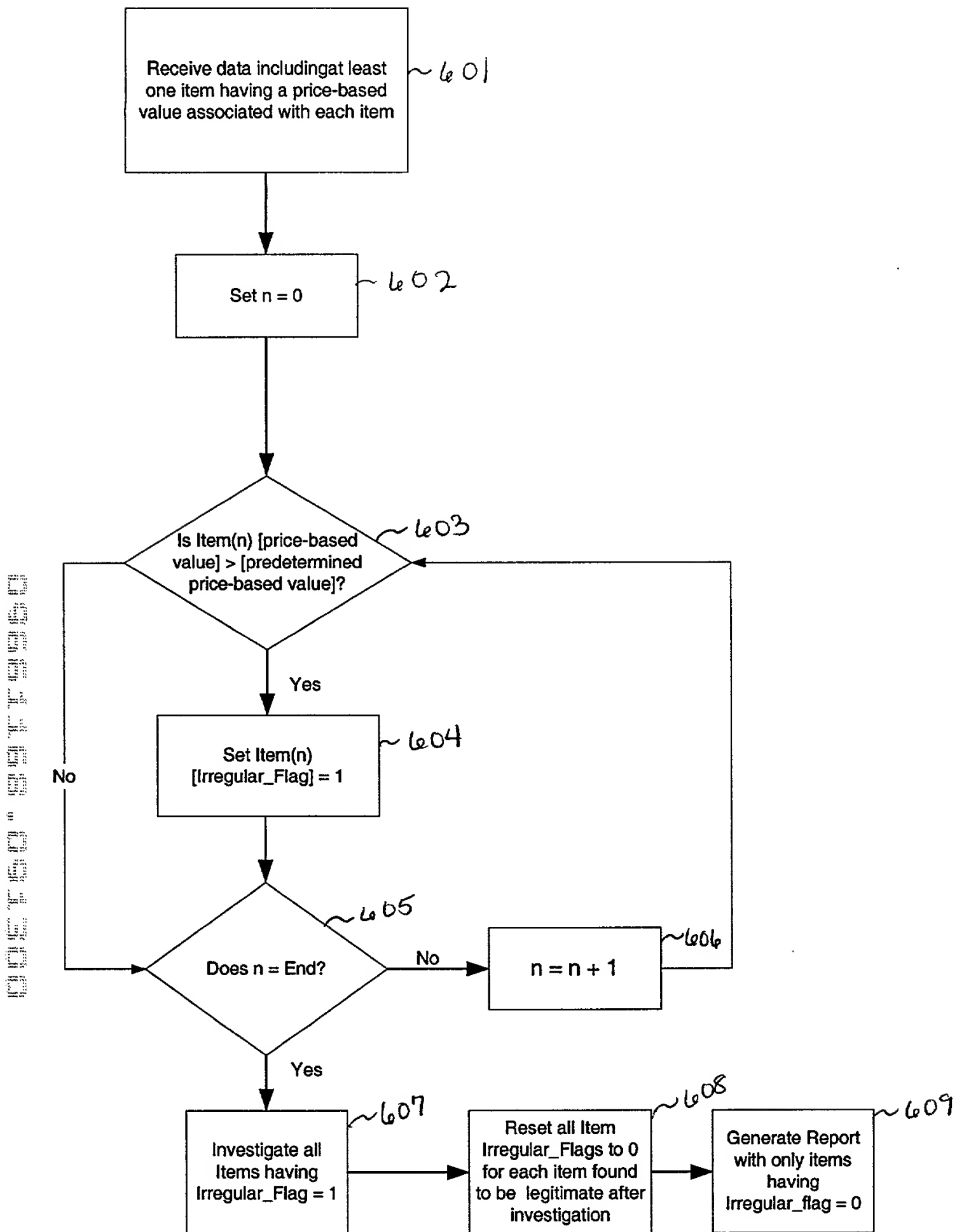


FIGURE 6

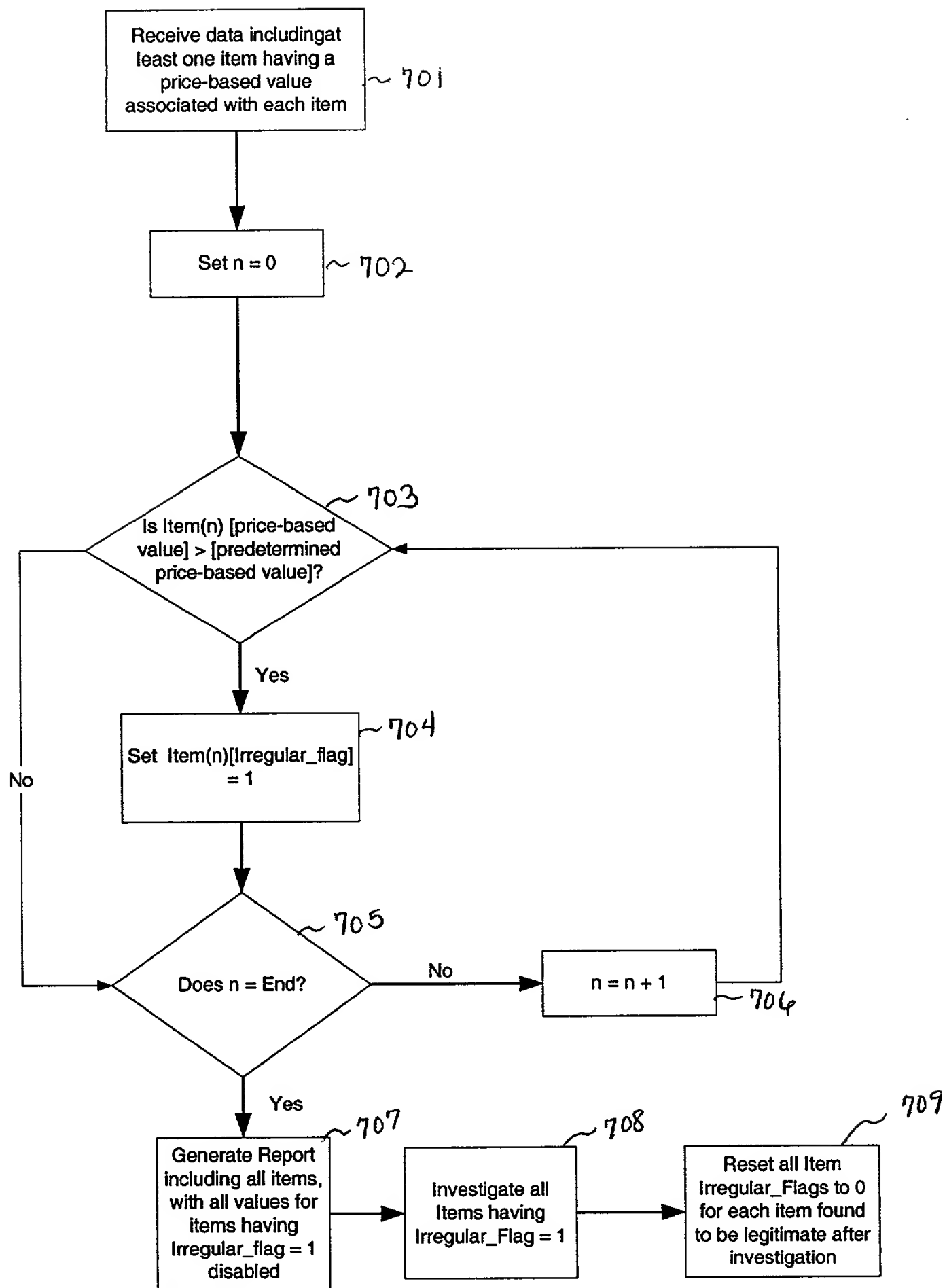


FIGURE 7

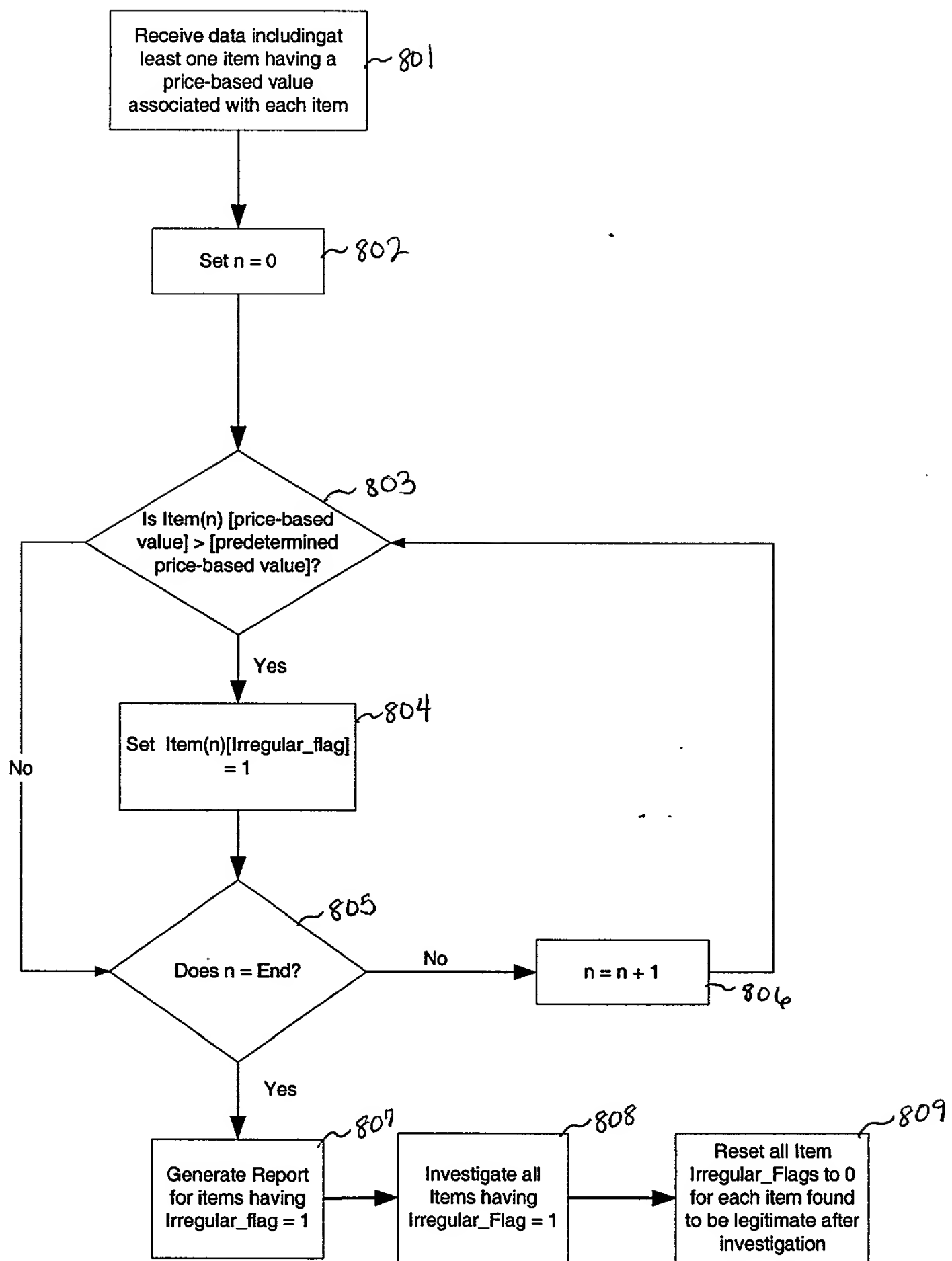


FIGURE 8



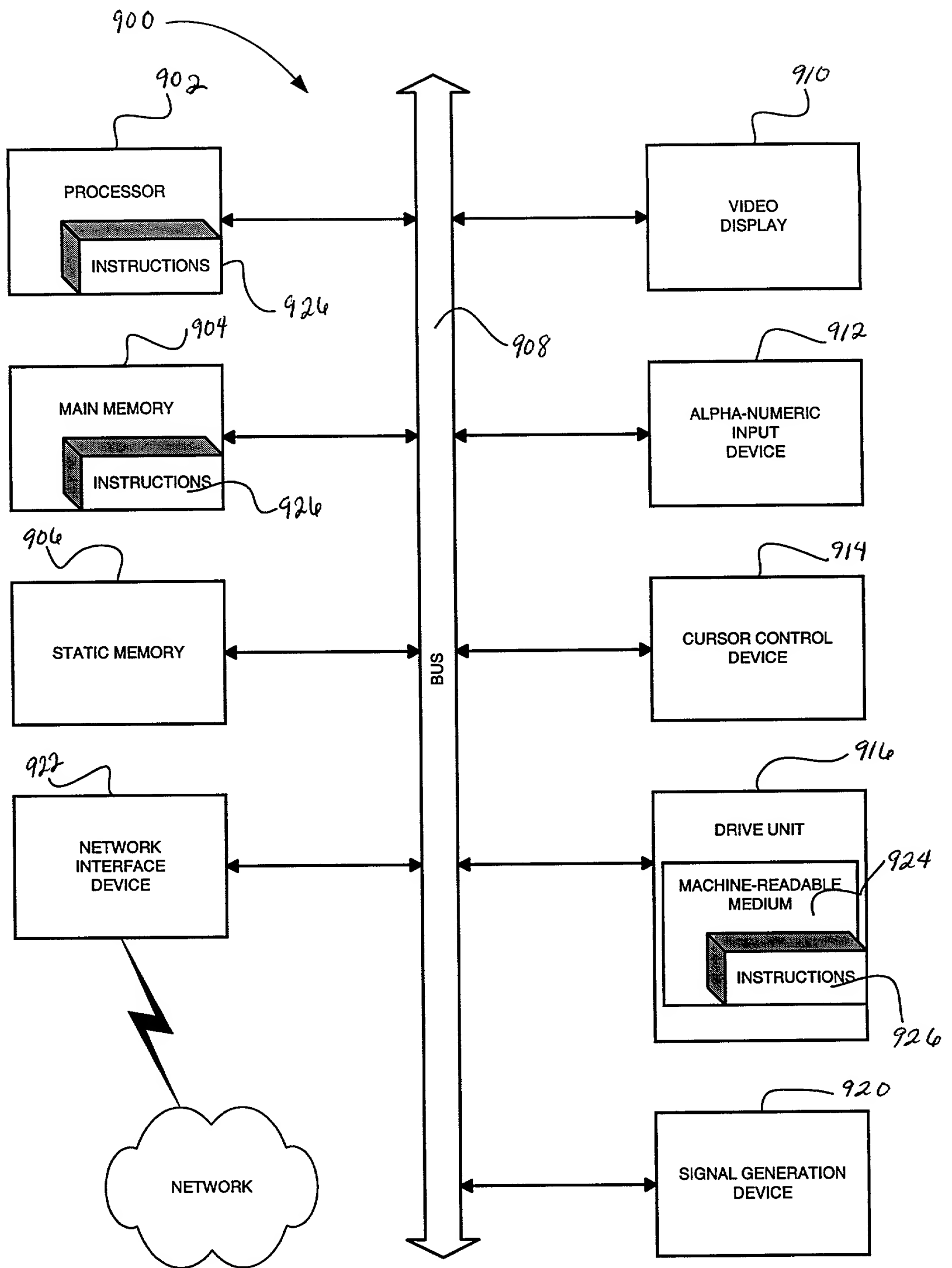


FIGURE 9

## Patent

As a below named inventor, I hereby declare that:

I believe I am the original, first, and sole inventor (if only one name is listed below) or an original, first, and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled

MONITORING AND AUTOMATIC NOTIFICATION OF IRREGULAR ACTIVITY  
IN A NETWORK-BASED TRANSACTION FACILITY

X is attached hereto.  
\_\_\_\_\_ was filed on \_\_\_\_\_ as  
United States Application Number \_\_\_\_\_  
or PCT International Application Number \_\_\_\_\_  
and was amended on \_\_\_\_\_  
(if applicable)

I acknowledge the duty to disclose all information known to me to be material to patentability as defined in Title 37, Code of Federal Regulations, Section 1.56.

I hereby claim foreign priority benefits under Title 35, United States Code, Section 119(a)-(d), of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed:

Prior Foreign Application(s)

Priority  
Claimed

_____ (Number)	_____ (Country)	_____ (Day/Month/Year Filed)	<u>Yes</u>	<u>No</u>
_____ (Number)	_____ (Country)	_____ (Day/Month/Year Filed)	<u>Yes</u>	<u>No</u>
_____ (Number)	_____ (Country)	_____ (Day/Month/Year Filed)	<u>Yes</u>	<u>No</u>

I hereby claim the benefit under title 35, United States Code, Section 119(e) of any United States provisional application(s) listed below:

_____ (Application Number)	_____ Filing Date
_____ (Application Number)	_____ Filing Date

I hereby claim the benefit under Title 35, United States Code, Section 120 of any United States application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of Title 35, United States Code, Section 112, I acknowledge the duty to disclose all information known to me to be material to patentability as defined in Title 37, Code of Federal Regulations, Section 1.56 which became available between the filing date of the prior application and the national or PCT international filing date of this application:

_____ (Application Number)	_____ Filing Date	_____ (Status -- patented, pending, abandoned)
_____ (Application Number)	_____ Filing Date	_____ (Status -- patented, pending, abandoned)

I hereby appoint the persons listed on Appendix A hereto (which is incorporated by reference and a part of this document) as my respective patent attorneys and patent agents, with full power of substitution and revocation, to prosecute this application and to transact all business in the Patent and Trademark Office connected herewith.

Send correspondence to André L. Marais, **BLAKELY, SOKOLOFF, TAYLOR &**  
(Name of Attorney or Agent)  
**ZAFMAN LLP, 12400 Wilshire Boulevard 7th Floor, Los Angeles, California 90025 and direct**  
telephone calls to André L. Marais, (408) 720-8300.  
(Name of Attorney or Agent)

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

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Inventor's Signature \_\_\_\_\_ Date \_\_\_\_\_

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Inventor's Signature \_\_\_\_\_ Date \_\_\_\_\_

Residence \_\_\_\_\_ Citizenship \_\_\_\_\_  
(City, State) (Country)

Post Office Address \_\_\_\_\_  
\_\_\_\_\_

Full Name of Fourth/Joint Inventor \_\_\_\_\_

Inventor's Signature \_\_\_\_\_ Date \_\_\_\_\_

Residence \_\_\_\_\_ Citizenship \_\_\_\_\_  
(City, State) (Country)

Post Office Address \_\_\_\_\_  
\_\_\_\_\_

## APPENDIX A

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## APPENDIX B

### Title 37, Code of Federal Regulations, Section 1.56 Duty to Disclose Information Material to Patentability

(a) A patent by its very nature is affected with a public interest. The public interest is best served, and the most effective patent examination occurs when, at the time an application is being examined, the Office is aware of and evaluates the teachings of all information material to patentability. Each individual associated with the filing and prosecution of a patent application has a duty of candor and good faith in dealing with the Office, which includes a duty to disclose to the Office all information known to that individual to be material to patentability as defined in this section. The duty to disclose information exists with respect to each pending claim until the claim is cancelled or withdrawn from consideration, or the application becomes abandoned. Information material to the patentability of a claim that is cancelled or withdrawn from consideration need not be submitted if the information is not material to the patentability of any claim remaining under consideration in the application. There is no duty to submit information which is not material to the patentability of any existing claim. The duty to disclose all information known to be material to patentability is deemed to be satisfied if all information known to be material to patentability of any claim issued in a patent was cited by the Office or submitted to the Office in the manner prescribed by §§1.97(b)-(d) and 1.98. However, no patent will be granted on an application in connection with which fraud on the Office was practiced or attempted or the duty of disclosure was violated through bad faith or intentional misconduct. The Office encourages applicants to carefully examine:

- (1) Prior art cited in search reports of a foreign patent office in a counterpart application, and
  - (2) The closest information over which individuals associated with the filing or prosecution of a patent application believe any pending claim patentably defines, to make sure that any material information contained therein is disclosed to the Office.
- (b) Under this section, information is material to patentability when it is not cumulative to information already of record or being made of record in the application, and
- (1) It establishes, by itself or in combination with other information, a prima facie case of unpatentability of a claim; or
  - (2) It refutes, or is inconsistent with, a position the applicant takes in:
    - (i) Opposing an argument of unpatentability relied on by the Office, or
    - (ii) Asserting an argument of patentability.

A prima facie case of unpatentability is established when the information compels a conclusion that a claim is unpatentable under the preponderance of evidence, burden-of-proof standard, giving each term in the claim its broadest reasonable construction consistent with the specification, and before any consideration is given to evidence which may be submitted in an attempt to establish a contrary conclusion of patentability.

(c) Individuals associated with the filing or prosecution of a patent application within the meaning of this section are:

- (1) Each inventor named in the application;
- (2) Each attorney or agent who prepares or prosecutes the application; and
- (3) Every other person who is substantively involved in the preparation or prosecution of the application and who is associated with the inventor, with the assignee or with anyone to whom there is an obligation to assign the application.

(d) Individuals other than the attorney, agent or inventor may comply with this section by disclosing information to the attorney, agent, or inventor.

003801.P015

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Inna VOGEL, et al.

Serial No.: New application

Filing Date: Herewith

For: MONITORING AND AUTOMATIC  
NOTIFICATION OF IRREGULAR  
ACTIVITY IN A NETWORK-BASED  
TRANSACTION FACILITY

Examiner: Not yet assigned

Art Unit: Not yet assigned

Assistant Commissioner for Patents  
Washington, D.C. 20231

**APPOINTMENT OF ASSOCIATE ATTORNEY**

Sir:

I hereby appoint André L. Marais as my associate attorney in the above-entitled application, to prosecute this application, to make alterations and amendments therein, and to transact all business in the Patent and Trademark Office connected therewith.

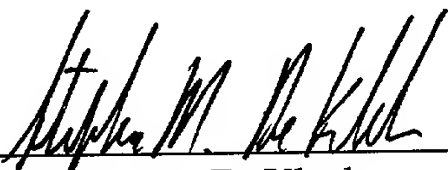
Please continue to address all future communications to Blakely, Sokoloff, Taylor & Zafman LLP, 12400 Wilshire Blvd., Seventh Floor, Los Angeles, CA 90025-1026.

Respectfully submitted,

BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN, LLP

Date: 9/13, 2000

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Stephen M. DeKlerk  
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